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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,532	12/12/2001	Roberto Villa	9623 V/vmf/as	4029

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EXAMINER	
SHEIKH, HUMERA N	
ART UNIT	**PAPER NUMBER**
1615	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,532	VILLA ET AL.	
	Examiner	Art Unit	
	Humera N. Sheikh	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Receipt of the Request for Continued Examination (RCE) under 37 C.F.R. 1.114 filed 03/26/04 and Applicant's Argument/Remarks filed 09/02/04 is acknowledged.

Applicant's election without traverse of Group 1 (claims 1-14 & 20) in the reply filed on 01/24/05 is acknowledged.

Claims 15-19 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/24/05.

Claims 1-14 and 20 are pending. Claims 1-14 have been amended. Claims 15-19 have been cancelled. Claims 1-14 and 20 are rejected.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/26/04 has been entered.

Claim Objections

Claim 11 is objected to because of the following informalities:

Claim 11 recites the active ingredient '**a**pasmolytics'. This term should be typographically corrected to recite '**s**pasmolytics' instead. Appropriate correction is required.

Specification

The disclosure is objected to because of the following informalities:

The specification at page 6, line 24 recites the term 'triglycerids'. This term should be typographically corrected to recite 'triglyceride**s**'. Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama *et al.* (EP 0 514 008 A1).

Akiyama *et al.* teach a gastrointestinal mucosa-adherent matrix comprising a viscogenic agent, a matrix containing a polyglycerol fatty acid ester and/or a lipid and an active ingredient and enteric polymers (see p. 2, line 55 to p. 3, line 7). Akiyama *et al.* teach viscogenic agents, such as polymers containing carboxyl groups or salts thereof, such as acrylic acid polymers, cellulose ethers, such as carboxymethylcellulose sodium, hydroxypropylmethylcellulose, methylcellulose, polyethylene glycols and naturally occurring mucous substances, such as pectin, carrageenan, gums, alginate and waxes, among the viscogenic agents used in the invention (p. 3, lines 23-56).

Akiyama *et al.* teach fatty acids that include, for example, saturated or unsaturated higher fatty acids containing 8-40, preferably 12-22 carbon atoms. Lipids are taught as a constituent of the matrix and have a melting point of 40-120°C, preferably 40-90°C, (p. 4, line 20 to p. 5, line 6). Typical examples of lipids include, for example, saturated fatty acids containing 14 to 22 carbon atoms, and salts thereof, higher alcohols containing 16 to 22 carbon atoms, glycerol fatty acid esters, oils, waxes, hydrocarbons, phospholipids and so on (p. 4, line 20 to p. 5, line 6).

Akiyama *et al.* contemplate a great variety of active ingredients, which can be delivered using the system of the invention, including analgesics, hypnotics and sedatives, psychotropic agents, bronchodilators and antitussives (p. 5, lines 7-15). Specific examples of the active ingredient include ketoprofen, ibuprofen and isosorbide dinitrate, for example (p. 5, lines 18-29).

Akiyama *et al.* teach that the composition may comprise an enteric polymer, such as Eudragit, and various additives (p. 7, lines 2-39). Akiyama *et al.* teach that the viscogenic agent is dispersed in the surface layer of the matrix containing the active ingredient and the lipid, or the matrix may be coated with a coating composition comprising the viscogenic agent (p. 7, lines 42-45). Thus, the art contemplates an outer hydrophilic matrix, as claimed by Applicant. Akiyama *et al.* teach that granules may be manufactured from the matrix (p. 8, lines 44-53).

According to Akiyama *et al.* the preparations of the invention may be provided in various dosage forms, including pills, tablets and capsules (p. 10, lines 12-21). With regards to Applicant's phrase limitation 'chewable or erodible in the buccal cavity' in instant claim 14, the Examiner notes that the phrase 'chewable or erodible' denotes a future-intended use limitation, which affords no significant patentable weight to the claim.

Additives are taught in the composition and include various excipients, such as, for example, lactose, cornstarch, talc, crystalline cellulose, binders such as methylcellulose, carboxymethylcellulose, surfactants, gastric antacids and mucosa-protecting agents, colorants, adsorbents, preservatives, disintegrating agents and so on (p. 7, line 57 to p. 8, line 13).

The examples at pages 10-18 demonstrate various embodiments of the invention.

Akiyama *et al.* provide controlled release compositions and dosage forms, as claimed. Akiyama *et al.* do not specifically mention that the compositions of the invention are taste-

masking, however, the patent teaches and recognizes the same general categories of active ingredients and excipients as claimed in the instant application and thus the same properties and results would be expected, including the 'taste-masking' property desired by Applicant. Burden is shifted to Applicant to show that the compositions disclosed by the prior art would not be capable of masking the unpleasant taste of certain drugs.

According to Akiyama *et al.*, controlled-release drug delivery systems are advantageous in that they help reduce frequency of administration of a drug, prevent sudden elevation of blood-drug concentrations and they help maintain therapeutically effective blood concentration levels for an extended period of time (p. 2, lines 9-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teachings of Akiyama *et al.* to formulate controlled release pharmaceutical compositions for the delivery of drugs in the gastrointestinal tract. The expected result would be a successful controlled release pharmaceutical composition. Because of the teachings of Akiyama *et al.*, that a variety of active agents can be delivered by the compositions of the invention, one of ordinary skill in the art would have a reasonable expectation that the compositions claimed in the instant application would be successful. Therefore, given the teachings of Akiyama *et al.*, the instant invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Prior Art made of record, not relied upon and deemed relevant by Examiner:

US Patent No. 6,368,635 B1 (Akiyama et al.) (04-2002)

- Akiyama *et al.* teach a matrix composition comprising a viscogenic agent dispersed on the surface layer of a matrix particle containing a polyglycerol fatty acid ester or a lipid and an active ingredient. The matrix may be such that a matrix particle containing a polyglycerol fatty acid ester or a lipid and an active ingredient has been coated with a coating composition containing at least one viscogenic agent. The composition can remain in the digestive tract for a prolonged period of time, thereby increasing bioavailability of the active ingredient (see Abstract).

Response to Arguments

Applicant's arguments filed 09/02/04 have been fully considered.

Firstly, Applicant argued regarding the 35 U.S.C. §112, second paragraph rejections for claims 1, 4, 9, 10 and 15 individually stating, "Claims 1, 4, 9, 10 and 15 have been amended and are definite to one of ordinary skill in the art." Applicant's arguments were found persuasive in view of the claim amendments. Accordingly, the 35 U.S.C. §112, second paragraph rejections for claims 1, 4, 9 and 10 have been withdrawn. (Claim 15 has been cancelled).

Secondly, Applicant argued regarding the 35 U.S.C. §103 (a) rejection over claims 1-20 over Akiyama et al. (EP 0514008) and the 35 U.S.C. §103 (a) rejection of claims 1-20 over Akiyama et al. (US Pat. No. 6,368,635).

Applicant argued, "Both Akiyama *et al.* publications fail to disclose or suggest the claimed invention. Akiyama *et al.* describe a gastrointestinal mucosa-adherent matrix adapted to

attach itself to the gastrointestinal mucosa. A viscogenic agent allows the matrix to adhere to the gastrointestinal tract and develops a sufficient degree of viscosity when in the presence of water. This is in contrast to the present invention, in which the hydrophilic matrix-forming polymer (viscogenic agent) controls the drug release rate not by promoting grafting of the composition to the intestinal mucosal wall, but by slowing the penetration of water into the composition. In the present invention, the delivery of active principles is controlled by slowing the dissolution rate of the matrix during its passing into the gastrointestinal tract, and not by the muco-adhesivity of the matrix to the tract. This result is achieved through a formulation obtained through a dispersion of one or more active ingredients in three different matrices mixed together to form a homogeneous multi-matrix system. As a result, the formulation does not contain a nucleus or similar layer. The instant claimed invention forms a uniform matrix. Akiyama *et al.* describe only one matrix (lipophilic matrix or layer containing the active ingredient and a hydrophilic compound). Thus Applicants believe that both Akiyama *et al.* publications fail to anticipate the claimed invention."

Applicant's arguments have been fully considered, but they were not found persuasive. Akiyama ***et al.*** as delineated above, teach a gastrointestinal mucosa-adherent matrix comprising a viscogenic agent, a matrix containing a polyglycerol fatty acid ester and/or a lipid and an active ingredient and enteric polymers (see p. 2, line 55 to p. 3, line 7). Applicants' argument that the instant invention does not contain or nucleus or similar layer is not persuasive since the instant 'comprising' claim language permits the presence of additional layers asides from those recited. Applicant's argument that the 'claimed invention forms a uniform matrix' is not persuasive since the matrix system taught by Akiyama *et al.* provides for a controlled release composition and

comprises similar components (*i.e.*, lipophilic, hydrophilic substances) and thus similar results are obtained using the matrix of Akiyama *et al.* Moreover, in response to Applicant's argument that the reference fail to show certain features of applicant's invention, it is noted that the features upon which Applicant relies (*i.e.*, 'uniform matrix') are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The prior art provides for effective matrix formulations comprising similar components as claimed by Applicants. Applicants have not demonstrated any unexpected and/or unusual results using the multi-matrix system claimed. The prior art recognizes and teaches matrix systems, which comprise precisely the same components in a similarly structured matrix formulation, used for the same field of endeavor as the Applicants. Thus the results and outcome imparted by the matrix system and components contained therein, would also be expected to be the same as that desired by Applicants. Therefore, the instant invention, when taken as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Humera N. Sheikh whose telephone number is (571) 272-0604. The examiner can normally be reached on Monday through Friday from 8:00A.M. to 5:30P.M., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page, can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. N. Sheikh H. N. Sheikh

Patent Examiner

Art Unit 1615

May 27, 2005